

SOT-23 Plastic-Encapsulate MOSFETS

Features

- $V_{DS}=-60V$
- $I_D=-0.17A$
- $R_{DS(on)}@V_{GS}=-10V < 8\Omega$
- $R_{DS(on)}@V_{GS}=-4.5V < 10\Omega$
- Trench Power LV MOSFET technology
- Low RDS(ON)
- Low Gate Charge

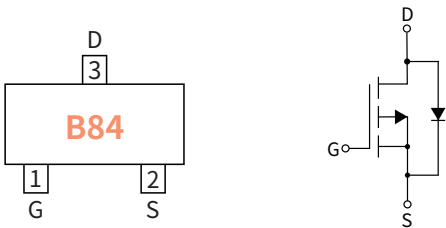
Applications

- Video monitor
- Load switch
- Power management

Mechanical Data

- Case: SOT-23
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Function Diagram



Maximum Ratings (Ta=25°C Unless otherwise specified)

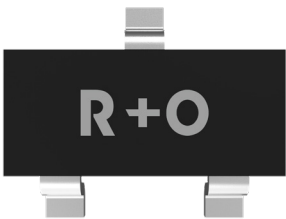
PARAMETER	SYMBOL	UNIT	VALUE
Drain-source Voltage	V_{DS}	V	-60
Gate-source Voltage	V_{GS}	V	± 20
Drain Current	I_D	A	-0.17
Total Power Dissipation	P_D	W	-0.68
Junction temperature	T_J	°C	-55 ~+150
Storage temperature	T_{stg}	°C	-55 ~+150
Thermal Resistance Junction-to-Ambient @ Steady State	$R_{\theta JA}$	°C / W	556

Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

Drain-source Voltage
-60 V
Drain Current
-0.17 Ampere

SOT-23



● Static Parameter Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	V	-60	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0V$	μA	—	—	-1
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	nA	—	—	± 100
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	V	-0.9	-1.4	-2.0
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-0.15A$	Ω	—	3.3	8
		$V_{GS}=4.5V, I_D=-0.15A$		—	3.5	10
Diode Forward Voltage	V_{SD}	$I_S=-0.17A, V_{GS}=0V$	V	—	—	-1.2
Maximum Body-Diode Continuous Current	I_S	—	A	—	—	-0.17

● Dynamic Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=-30V$ $V_{GS}=0V$ $f=1MHz$	pF	—	43	—
Output Capacitance	C_{oss}			—	2.9	—
Reverse Transfer Capacitance	C_{rss}			—	2.8	—

● Switching Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Total Gate Charge	Q_g	$V_{GS}=-10V$ $V_{DS}=-30V$ $I_D=-0.15A$	nC	—	1.77	—
Gate-Source Charge	Q_{gs}			—	0.57	—
Gate-Drain Charge	Q_{gd}			—	0.18	—
Turn-on Delay Time	$t_{D(on)}$	$V_{DD}=-30V, V_{GS}=-10V,$ $I_D=-0.15A, R_{GEN}=2.5\Omega$	nS	—	8.6	—
Turn-on Rise Time	t_r			—	20	—
Turn-off Delay Time	$t_{D(off)}$			—	15	—
Turn-off fall Time	t_f			—	77	16

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

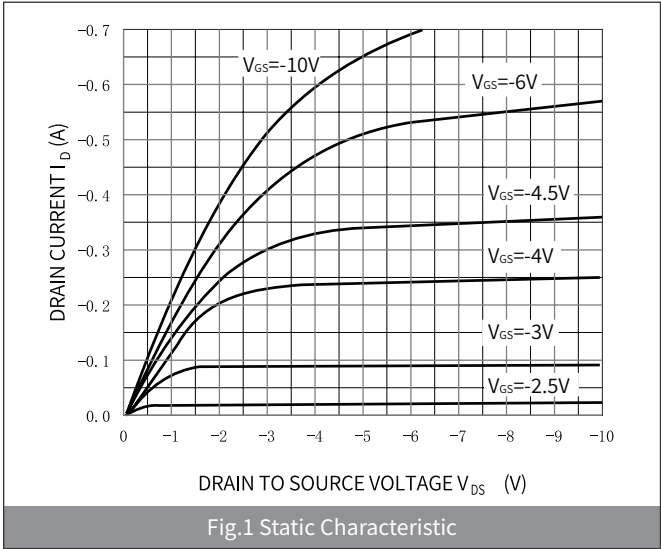


Fig.1 Static Characteristic

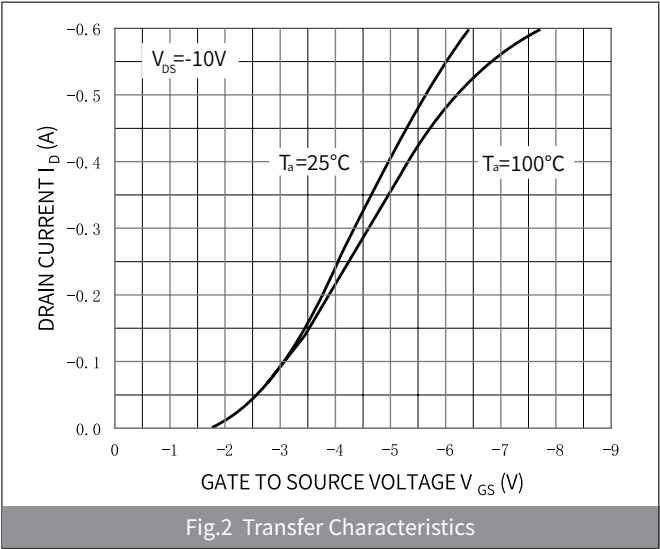


Fig.2 Transfer Characteristics

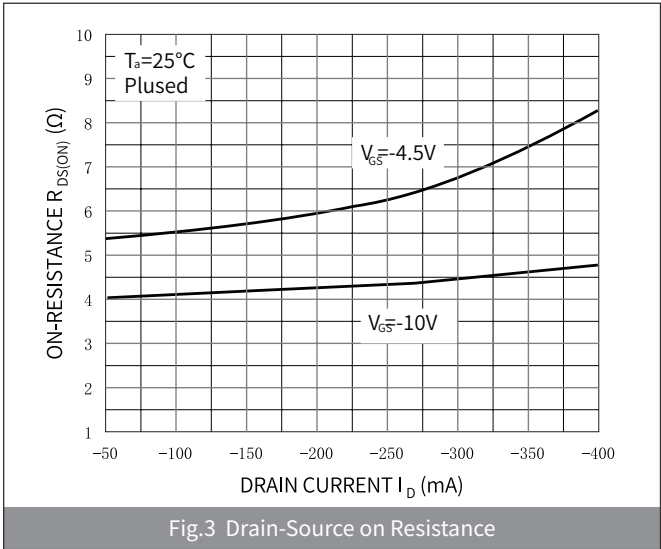


Fig.3 Drain-Source on Resistance

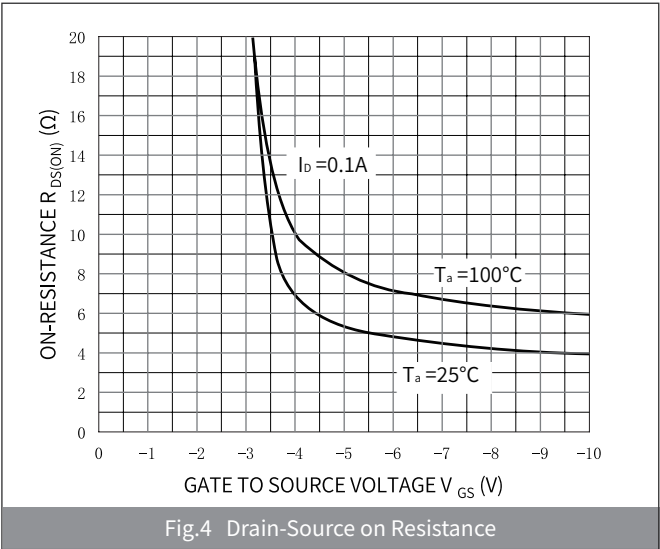


Fig.4 Drain-Source on Resistance

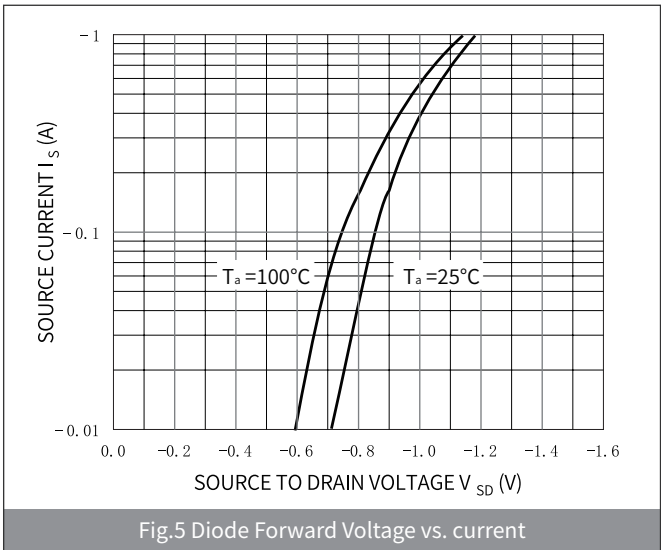


Fig.5 Diode Forward Voltage vs. current

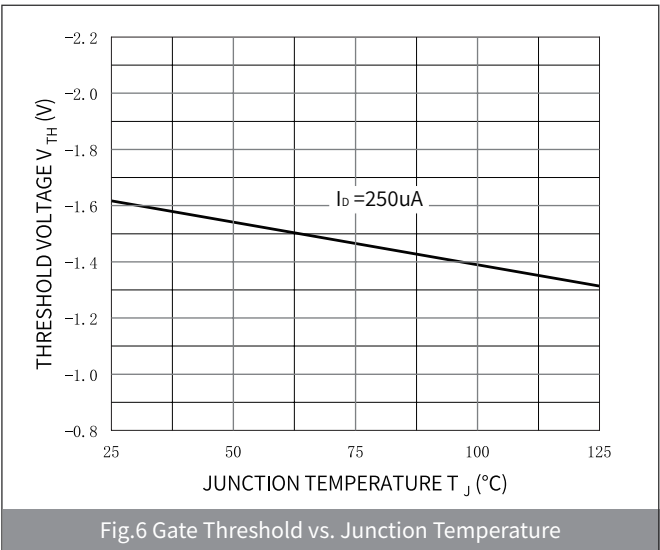
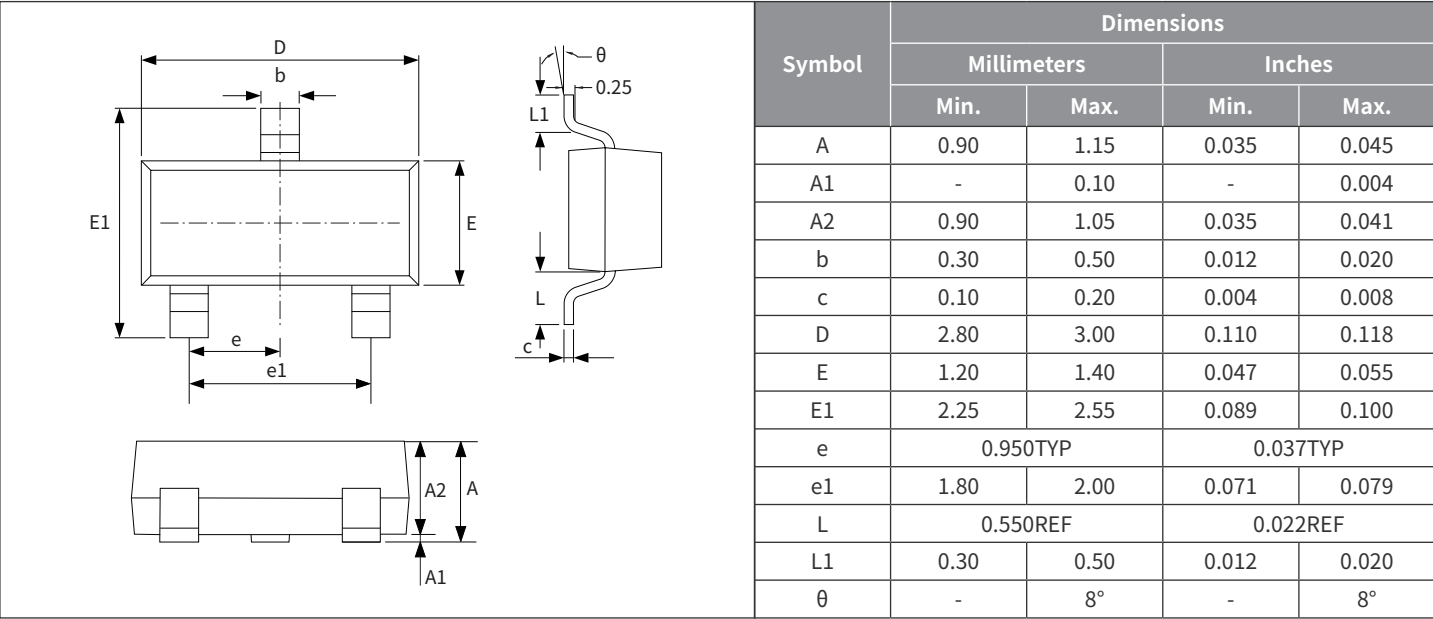


Fig.6 Gate Threshold vs. Junction Temperature

● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

